

REMARKS

The above amendment with the following remarks is submitted to be fully responsive to the Official Action of August 19, 2003. Reconsideration of this application in light of the amendment and the allowance of this application are respectfully requested.

Claims 11-19 stand allowed. The Examiner's early indication of allowed subject matter is appreciated. Also, claims 25, 27 and 28 are indicated as allowable if rewritten to overcome the rejections under 35 U.S.C. §112, second paragraph, indicated below. In response, new claims 29 and 30 have been added to reflect in independent form the combination of original claims 20 and 27 and 20 and 28, respectively, except that the spacer has been deleted to correct antecedency issues. Thus, new claims 29 and 30 are believed to be allowable.

Claims 20-28 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner pointed out that claims 20-23 and 26 unduly repeat claims 1-4, 6 and 7. In response, claim 20 has been amended as discussed hereinbelow to include a limitation not present in claim 1 and thus claim 20 is not identical, and does not unduly repeat, claim 1. Therefore, this rejection has been overcome.

Claims 1-5, 7, 20-24 and 26 stand rejected under 35 U.S.C. §102(b) as being anticipated by Doll. In response, the following remarks are hereby submitted to clarify the distinctions of the present invention over the prior art including Doll.

Doll fails to anticipate the present invention as recited in independent claim 1 and newly amended independent claim 20 for the following reasons. The Doll reference admittedly discloses a bidirectional two-way valve including a valve element and armature, ports 44 and 48 and a through-bore 82 for directing fluid to an opposite end of the valve element. However, the Doll valve

assembly is not in communication with fluid pressure such that the fluid pressure forces exerted upon the valve assembly bias the valve assembly to the open position when the fluid flows from the downstream location to the upstream supply as required by independent claim 1. Fluid pressure forces acting on the Doll valve in the open position do not bias the valve open as fluid flows from port 48 to port 44. Fluid pressure acting on upstream surfaces of the movable valve assembly are communicated without flow loss to an opposed frusto-conical surface 34 by through-bore 82. The projected areas of these opposing surfaces are equal. Therefore, the hydraulic forces are balanced. A lower pressure is expected in the neck portion 40. However, this pressure produces no net hydraulic force on the movable valve assembly as it acts on equal face areas associated with neck portion 40. Therefore, the movable valve of the Doll reference is hydraulically force balanced while a spring force (spring 84) is used to bias the valve open when the solenoid is not energized. On the other hand, the present invention achieves a positive fluid pressure force bias of the valve assembly toward the open position. Thus, the Doll reference fails to disclose an important feature presently recited in independent claim 1. Therefore, it is respectfully requested that the Doll reference does not anticipate the present invention as recited in independent claims 1 and 20.

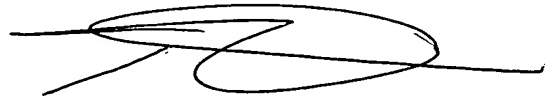
Moreover, independent claim 20 has been amended to clarify that the valve element blocks flow between the downstream location and the first and the second chambers when in the closed position. The Doll valve permits communication between the downstream location and the other chambers in the valve regardless of the selection of the downstream location. Specifically, if the downstream location is selected to be port 48, then the chamber adjacent surfaces 32, 34 is in communication with the downstream location via through-bore 82. Moreover, in this design, substantial leakage occurs with the valve in the closed position via the flow circuit between the downstream port 48 and the bore or chamber 30 (same as port or chamber 40) or vice versa, by the fluid flow

path including through-bore 82, the clearance gap between the end of the armature adjacent surfaces 32, 34 and the axial clearance gap along the armature positioned adjacent grooves 80. Thus, there is continuous communication, and no blocking of the flow, between the upstream and downstream locations, regardless of the selection of the locations in this bidirectional valve. As a result, the Doll reference fails to include important features recited in newly amended independent claim 20 and therefore does not anticipate the present invention as recited in newly amended independent claim 20.

Accordingly, reconsideration and withdrawal of the rejection of independent claims 1 and 20 under 35 U.S.C. §102(b) is in order and respectfully requested. Also, it is respectfully submitted that dependent claims 2-10 and 21-28 are likewise allowable in that they depend from what is believed to be allowable base claims 1 and 20.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. However, if the Examiner deems that any issue remains after considering this response, he is invited to call the undersigned to expedite the prosecution and work out any such issue by telephone.

Respectfully submitted,



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